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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,953	12/08/2003	Koji Kitani	03560.003412.	9008

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EXAMINER	
TALBOT, BRIAN K	
ART UNIT	PAPER NUMBER
1762	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/728,953	KITANI, KOJI	
	Examiner	Art Unit	
	Brian K. Talbot	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/15/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Claims 1-5 remain in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted state of the art (specification, [0002]-[0011]) (a) alone or (b) in combination with Huggins (6,153,268) or JP 49-022119.

Applicant's admitted state of the art (specification, [0002]-[0011]) teaches forming a piezoelectric film by gas deposition techniques comprising ejecting ultra-fine particles having a perovskite structure on a substrate and polarizing the layer to form the piezoelectric film. The electric field applied in the polarizing step has an intensity of from 1-5 kV/mm. The substrate can be metal or resin.

Applicant's admitted state of the art (specification, [0002]-[0011]) fails to teach applying the electric field to the ultra-fine particles while traveling toward the substrate as opposed to on the substrate.

(a) While the Examiner acknowledges this fact, it is the Examiner's position that one skilled in the art at the time the invention was made would have had a reasonable expectation of

achieving similar success regardless of when the ultra-fine particles were subjected to "polarizing/electric field", i.e. prior to or after application on the substrate.

If Applicant disagrees, Applicant is invited to supply a showing of unexpected results regarding this difference and submit claims commensurate in scope with the showing, i.e. claims directed to no polarizing step being performed after contact with substrate.

(b) Huggins (6,153,268) teaches a method of producing oriented piezoelectric films. This is done by bombarding a target comprising a piezoelectric material, dislodging the particles, ionizing the particles, and electrostatically attracting the dislodged particles to the substrate (abstract and Fig. 2). Huggins (6,153,268) teaches ionizing the particles by establishing an electric field within the chamber (22) with a coil (36) placed around the chamber (22) (col. 3, lines 20-50).

JP 49-022119 teaches a piezoelectric thin films produced by spraying the piezoelectric particles and subjecting them to an electric field to control the polar axes for producing a piezoelectric film (abstract and Figs. 1-3).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Applicant's admitted state of the art (specification, [0002]-[0011]) by incorporating an electric filed as evidenced by Huggins (6,153,268) or JP 49-022119 to produce the oriented piezoelectric films without the need for a subsequent polarizing step.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

B K Talbot 1/17/06

Brian K Talbot
Primary Examiner
Art Unit 1762

BKT